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LAIMS

Apparatus for aiding in the identification of tissue 1. anomalous tissue in an impedance type for an comprising:

means for providing a polychromic immitance map of a portion of the body;

means for determining a plurality of polychromic measures of an anomalous region of the immitance image; and

a display which displays an indication based on said plurality of polychromic measures.

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Apparatus according to claim 1 including means for 12 providing a map of said polychromic measures and wherein said 13 indication includes a display of a plurality of said maps. 14

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Apparatus according to claim 2 wherein said display 16 includes an overlay of maps of said polychromic measures. 17

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Apparatus according to claim 3 and including means for 19 matching the values of the plurality of measures with 20 predetermined values of the measures to identify the tissue type of the anomalous tissue. 22

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Apparatus according to claim 4 wherein the values of the 24 measures are normalized values. 25

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Apparatus according to claim 4 wherein the indication is 27 the display of a map of said determined tissue type. 28

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Apparatus for determining a tissue type for an anomalous 7. 30 tissue comprising: 、31

means for determining a plurality of polychromic 32 measures of the ampmalous tissue; and

33 means for matching the values of the plurality of 34 measures with predetermined values of the measures to 35

identify the tissue type of the anomalous tissue. 36

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Apparatus according to claim 7 wherein the values of the 38 measures are normalized values. 52 -

2 9. Apparatus according to claim 7 wherein one of the polychromic measures is derived from the frequency at which the capacitance spectrum of the anomaly crosses a capacitance

5 spectrum of typical nonanomolous regions.

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7 10. Apparatus according to claim 7 wherein one of the 8 polychromic measures is derived from the integrated deviation 9 of the capacitance or conductance of the anomaly from that of typical nonanomolous regions.

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12 11. Apparatus according to claim 10 wherein one of the 13 polychromic measures is derived from the sum, over a 14 plurality of frequencies, of the positive deviations of the 15 capacitance of the anomaly from that of typical nonanomolous 16 regions.

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18 12. Apparatus according to claim 10 wherein one of the polychromic measures is derived from the sum, over a plurality of frequencies, of the negative deviations of the capacitance of the anomaly from that of typical nonanomolous regions.

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24 13. Apparatus according to claim 10 wherein one of the 25 polychromic measures is derived from the sum, over a 26 plurality of frequencies, of the positive deviations of the 27 conductance of the anomaly from that of typical nonanomolous 28 regions.

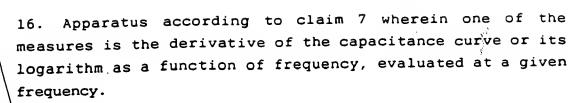
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30 14. Apparatus according to claim 7 wherein
31 one of the measures is the integral of the phase or the sum
32 of phase values over a range of frequencies.

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34 15. Apparatus according to claim 7 wherein one of the 35 measures is the difference between the integral of the 36 difference between the phase at a point and the mean or 37 median value of the phase in the image, over a range of 38 frequencies.

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17. Apparatus according to claim 7 wherein one of the 6 measures is the derivative of the conductance curve or its 7 ldgarithm as a function of frequency, evaluated at a given 8 9 frequency.

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Apparatus according to claim 7 wherein one of the 18. 11 measures is a frequency at which the phase of the impedance 12 reaches a specified value. 13

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19. Apparatus according to claim 16 wherein the specified 15 value is 45 degrees. 16

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20. A method of determining a tissue type for tissue in an 18 anomalous region in an immitance image, comprising: 19

determining a plurality of polychromic measures of said anomalous region; and

matching the values of the plurality of measures with predetermined values to identify the tissue type of the anomalous region.

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A method of determining a tissue type for an anomalous 21. tissue:

determining\a plurality of polychromic measures of the 28 anomalous tissue; 29

matching the values of the plurality of measures with 30 predetermined values to identify the tissue type of the 31 anomalous tissue. 32

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A method according to claim 21 wherein one of the 34 22. polychromic measures \is derived from the frequency at which 35 the capacitance spectrum of the anomaly crosses a capacitance spectrum of typical nonanomolous regions. 37

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A method according to any of claim 21 wherein one of the 39 23. 54

polychromic measures is derived from the integrated deviation of the capacitance or conductance of the anomaly from that of typical nonanomolous regions.

24. A method according to claim 23 wherein one of the 5 polychromic measures is derived from the sum, over a 6 plurality of frequencies, of the positive deviations of the 7 capacitance of the anomaly from that of typical nonanomolous 8 régions. 9

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A method according to claim 23 wherein one of the 11 polychromic measures is derived from the sum, over a 12 plurality of frequencies, of the negative deviations of the 13 capacitance of the anomaly from that of typical nonanomolous 14 15 regions.

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A method according to claim 23 wherein one of the 17 polychromic measures is derived from the sum, over a 18 plurality of frequencies, of the positive deviations of the 19 conductance of the anomaly from that of typical nonanomolous 20 regions. 21

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A method according to claim 21 wherein one of the 23 measures is the integral of the phase or the sum of phase values over a range of frequencies. 25

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A method according to claim 21 wherein one of the 27 measures is the \difference between the integral of the 28 difference between the phase at a point and the mean or 29 median value of the phase in the image, over a range of 30 frequencies. 31

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A method according to claim 21 wherein one of the 33 measures is the derivative of the capacitance curve or its logarithm as a function of frequency, evaluated at a given 35 frequency. 36

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A method according to claim 21 wherein one of the 38 measures is the derivative of the conductance curve or its 39 55 -

1 logarithm as a function of frequency, evaluated at a given
2 frequency.

4 31. A method according to claim 21 wherein one of the measures is a frequency at which the phase of the impedance reaches a specified value.

8 32. A method according to chaim 31 wherein the specified 9 value is 45 degrees.

11 33. A method according to claim 21 wherein the values of the 12 measures are normalized values.

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